

## ABSTRACT:

A digital transmission system (1) comprises: a transmitter (2), a receiver (3), and a transmission channel (4) coupled there between. Both the transmitter (2) and the receiver (3) are provided with an encoder (5) and a decoder (6) respectively, wherein a multilevel input signal is coded such, that a DC-balanced digital channel code is transmitted.

- 5 The coders (5, 6) are embodied to match levels of the DC-free multilevel input signal and code words of the DC-balanced digital channel code such, that disparities of the selected code words are symmetrically grouped around zero disparity. This results in a DC-free digital channel code signal having a limited transmission band width, which signal can be conveyed with minimal hardware over the usually AC-coupled transmission channels.

Fig. 2